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PRELIMINARY ASSESSMENT

Canyon Industries, Inc.

734 E. Southern Pacific Drive, Phoenix, AZ 85034

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Office of Waste Programs

Emergency & Remedial Section

Site Discovery & Hazard Evaluation

SECTION I

PRELIMINARY ASSESSMENT

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CANYON INDUSTRIES, INC.

Site Description

Canyon Industries, Inc. is located at 734 E. Southern Pacific Drive, Phoenix, Az 85034. (See Site Location Map, Figure 1.)(1) It is part of a 2.5 acre industrial complex. (Refer to Figure 2 for the Industrial Complex Site Diagram.) Canyon Industries, Inc. is at location 6 on the diagram which is the northeast corner of the complex. As shown, it occupies two of the buildings at the complex.

Canyon Industries, Inc. is a corporation. It has been in existence since 1978. The President's name is John Freshley.(2)

The landowner of the industrial complex is Southern Pacific Railroad.(2) The entire complex, less than 1 acre, is enclosed by a chain link fence.(3)

Canyon Industries, Inc. manufactures 4 types of products. The first type is a de-icing fluid for aircraft. The components of this product are ethylene glycol, alcohol, and water. Secondly, they produce disinfectants. The primary constituents are quaternary ammonium complexes. Thirdly, they produce cleaning products which consist of different caustics and acids.(2,4) Lastly, they compound a deodorant for toilet waste holding tanks. This product is made primarily of

Figure 1 Site Location Map

CANYON INDUSTRIES, INC.
734 E. Southern Pacific Dr.
Phoenix, AZ. 85034

Scale 1:24000

0 1/2 1

#1 CHEMONICS FIRE-TROL
-Storage of Forest Fire Retardant Chemicals
-Repairs & Maintenance of Fire Retardant Equipment
-Fire Retardant Research & Development

#2 McKENZIE LABORATORY INC.
-Agricultural Testing Laboratory

#3 GOVERNMENT INNOVATORS INC.
-Manufacture & Sale of Residential Mechanized Refuse Collection Systems

#4 AVAILABLE METALS REFINING CORPORATION
-Processors of Electronic Surplus

#5 LEFFINGWELL CHEMICAL CORPORATION
-Agricultural Chemical Warehouse

#6 CANYON INDUSTRIES INC.
-Manufacture & Sales of Chemical Products for Industrial & Institutional Applications

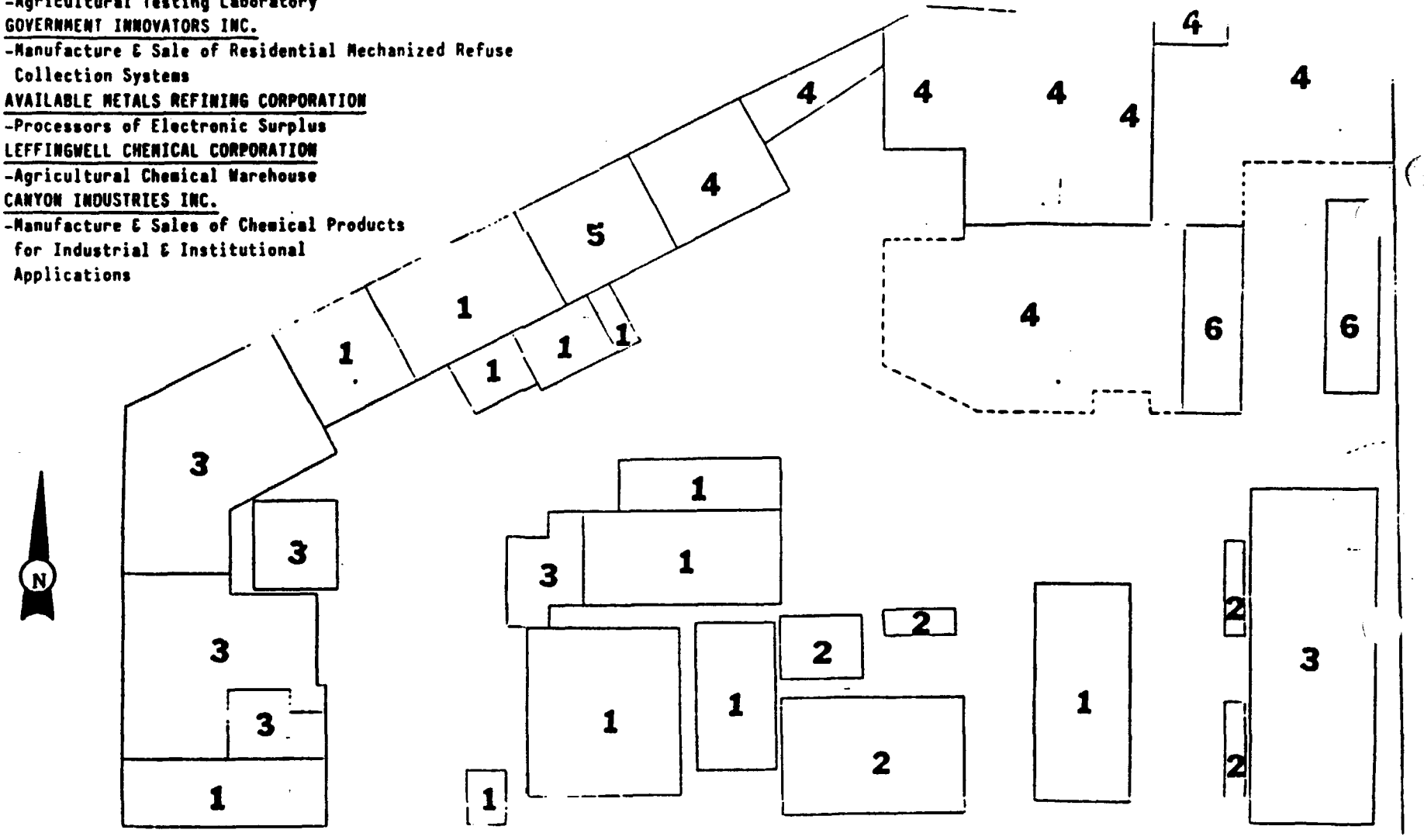

Figure 2
SITE DIAGRAM
Industrial Complex

formaldehyde and methyl alcohol.(15,19)

These products are compounded in a batch tank process. Prior to July 23, 1986 the batch tanks were drained, then rinsed with 15 to 20 gallons of water. The first five gallons of the rinsate were disposed of by draining to the septic tank. The remaining rinsate was discharged directly to the ground.(2,4) Since July 23, 1986 Canyon Industries, Inc. contains the tank rinsate and has ceased discharging the rinsate to the ground surface and the septic tank.(5) The current containment is unknown.

Apparent Problem

On July 29, 1983 the Bureau of Waste Control (BWC) sampled an irrigation well located at Eastlake Park, 16th Street and Jefferson in Phoenix, Arizona. The sample was analyzed by the Arizona Department of Health Services (ADHS) Lab on August 8, 1983. Trichloroethene (TCE) was detected at a level of 61.1 ppb. Other volatile organic compounds were also detected, but their contaminant levels were significantly less than the TCE.(6)

Following the discovery of the TCE contaminated well, the Phoenix Eastlake Park Groundwater Contamination Study Area was established and has the following boundaries:

North: Thomas Road

East: 48th Street

South: A line running East-West which contains both University Drive (East end) and Lower Buckeye Road (West end).

West: 7th Avenue

This area covers 24 square miles.(7)

A preliminary potential responsible party search was conducted in the Phoenix Eastlake Park Groundwater Contamination Study Area. The search was completed on November 30, 1984 by ADHS. Canyon Industries was included as a potential responsible party as a result of the search.(7)

Canyon Industries is located in the southwestern region of the Phoenix Eastlake Park Groundwater Contamination Study area. The site is one mile west and a block south of Eastlake Park.

Canyon Industries submitted a Notice of Disposal (NOD) form to ADHS on January 18,1985.(2) The NOD form states that the most prevalent chemicals in their disposal waste stream include: ethylene glycol; hydrochloric acid; various anionic and nonionic surfactants; detergent builders such as phosphates, silicates and hydroxides; pine oil; ethylene glycol monobutyl ether; Na EDTA; and quaternary ammonium compounds. These chemicals are listed in order of decreasing concentrations. Therefore, ethylene glycol has the greatest concentration and the quaternary ammonium compounds have the least concentration. There

are also other chemicals with less significant concentrations.

There is a discrepancy between the NOD form and the constituents of the products. The form does not include formaldehyde or methyl alcohol as a constituent in the disposal waste stream.

As was previously mentioned, 15 to 20 gallons of water were used to rinse the batch tanks with the inital five gallons of rinsate being disposed of in the septic tank. The remaining rinsate was discharged to the ground surface.(2) This practice continued until July 23, 1986. After this date, this method of disposal was no longer used and the rinsate was contained thereafter.(5)

A hazardous waste facility inspection was conducted on February 19, 1986 by ADHS. The inspection report supports the information given on the NOD form.(4)

This inspection resulted from a complaint of a recurring odor coming from the industrial complex in which Canyon Industries, Inc. is located. Neither the odor nor its source was identified. However, The inspectors discovered an odor similar to ethylene glycol coming from the ground disposal area at Canyon Industries, Inc.(4)

There is a potential for a past release to the groundwater and the air. Since some of the rinse water was discharged directly to the ground, there is a possibility for the discharged rinse water to have

reached the groundwater.

The potential for a present or future release to any migration route is unlikely. As stated previously, since July 23, 1986 Canyon Industries has contained all batch tank rinse water and has ceased discharging the rinse water to the ground surface. Also, they are no longer disposing of any rinse water in the septic tank.(5)

Ethylene glycol, the most prevalent chemical, is totally miscible in water.(9) Therefore, it would be highly mobile and it would not remain in the soil. Thus, there would not be continuous leaching of the soil. So, there is little potential for a present or a future release.

HRS Factors

Observed Release

There has been a documented release to groundwater in the Eastlake Park area. As mentioned earlier, an analysis was conducted on the Phoenix Eastlake Park irrigation well by Arizona Department of Health Services (ADHS) Lab on August 8, 1983.(6)

There have not been any observed releases to the air, surface water, or soil.

Direct Contact/Fire and Explosion

There is no potential for direct contact since the entire industrial complex is enclosed with a chain link

fence.(3)

The Phoenix Fire Department was unable to assist us with any information they might have pertaining to the site.(8)

Waste Type

The major substances used at the site are ethylene glycol, hydrochloric acid, various surfactants and detergent builders. These substances were also a part of the disposal waste. Refer to Appendix B for a complete listing and the corresponding concentrations of the waste constituents.(2)

Persistence data for ethylene glycol can not be found. The Chronic Acceptable Intake (inhalation route) for ethylene glycol is 1.60E-02 mg/kg/day. No toxicity data was given for the oral route.(9)

Waste Quantity

As of January 18, 1985 the average annual waste disposal schedule was as follows: de-icing fluid - 26 days/year; disinfectants - 14 days/year; other - 28 days/year.(2) As of June 12, 1986 approximately 17,000 pounds of rinsate were produced yearly.(14) The disposal method was discharging the waste to a septic tank or to the ground surface. (2) As of July 23, 1986, this disposal method ceased and all wastes were contained. The type of containment used is unknown.(5)

Groundwater

The Canyon Industries Inc. Site is located in the

West Salt River Valley sub-basin of the Phoenix Active Management Area. Valley-fill deposits lie beneath the West Salt River sub-basin. These deposits are the main sources of groundwater.

Based on lithology, the valley-fill deposits can be divided into three water bearing strata. The top strata is the Upper Alluvial Unit. Beneath the Upper Alluvial Unit is the Middle Fine-grained Unit. The bottom strata is the Lower Conglomerate Unit.

The primary source of groundwater in the valley-fill deposits is the Upper Alluvial Unit. Groundwater is usually unconfined. In locations of finer grained materials, groundwater is semi-confined. Perched conditions are also common.(10)

Groundwater flow is generally in a westerly direction.(6) In the immediate area of the site, depth to groundwater ranges from 55 to 75 feet.(11) Within a three mile radius of the site, specific conductance ranged from 950 micromhos/cm to 2050 micromhos/cm. (10)

There are two Salt River Project irrigation wells within a three mile radius of the site.(12) There are no active City of Phoenix municipal water supply wells located within this same radius.(13)

The target population would be the City of Phoenix since this area is served by the City of Phoenix municipal water supply which is an interconnecting distribution system.

The number and uses of wells in a three mile radius around the site are as follows:

WELL TYPE	QUANTITY	
Monitor	21	
Test	55	
Drainage	10	
Utility	3	
Recreational	1	
Exploration	3	
Domestic/Municipal	1	(not in use)
Mine	2	
TOTAL	96(21)	

The net precipitation was calculated to be -65 inches annually.(16)

The site is located in the Gilman-Estrella-Avondale association which is nearly level loam soils on valley plains and flood plains. The permeability of this association is 0.2 - 2.0 inches/hour.(17)

Surface Water

The Canyon Industries, Inc. site is approximately 1 1/2 miles north of the Salt River. The potential for surface runoff to reach the Salt River is low. The Salt River is an intermittent river that flows only after water is released from upstream dams. The water flows into the Gila River which supports wildlife and is used for recreation. The target population would be small.

low one year 24-hour rainfall is 1.02 inches.(18)

As was previously stated, the permeablility of the unsaturated zone is 0.2 - 2.0 inches/hour.(17)

Facility slope and intervening terrain is between 0 and 1 per cent.(17)

Air

There was a past potential release to the air due to ground dumping of rinsate from the batch tankes. A future release is unlikely since ground dumping has ceased

Conclusions/Recommendations

The Eastlake Park irrigation well is contaminated with trichlorethylene at a level of 61.1 ppb. A drive-by search resulted in Canyon Industries Inc. being included as a possible responsible party.

Canyon Industries, Inc. has been in business since 1978. They manufacture de-icing fluid, disinfectants, cleaning compounds, and deodorants. The most prevalent constituents used to manufacture these products include the following: ethylene glycol; hydrochloric acid; various anionic and nonionic surfactants; detergent builders such as phosphates, silicates, and hydroxides; pine oil; ethylene glycol monobutyl ether; Na EDTA; and quaternary ammonium complexes.

Prior to July 23, 1986, Canyon Industries, Inc. disposed of batch tank rinse water by discharging the initial five gallons in the septic tank and the remaining 10 - 15 gallons directly to the ground

surface. After this date, all rinse water has been contained and they no longer discharge to the septic tank or ground surface.

It is unlikely that Canyon Industries, Inc. could have contributed to the contamination of the Eastlake Park irrigation well. Trichlorethylene and the other less significant contaminants were not used in the manufacture of any of Canyon Industries, Inc.'s products.

Preliminary HRS scoring indicates that this site would not warrant a Site Inspection. Therefore, no further action is recommended under CERCLA.

Since Canyon Industries, Inc. is currently in compliance with current groundwater quality regulations and since the contaminants used at the facility are highly mobile and are unlikely to remain in the soil, it is unneccessary for the site to be referred to another agency for site investigation, monitoring or any type of remedial action.

REFERENCES

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5. Freshley, John, Canyon Industries, Inc. to Rob B. Larson, Arizona Department of Health Services. Letter, July 23, 1986.

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7. Phoenix Eastlake Park Responsible Party Search, by John Sheperdson, Arizona Department of Health Services. November 30, 1984.

8. Captain Vera, Phoenix Fire Department and Gloria Gowan, Arizona Department of Environmental Quality. Telephone Conversation, January 5, 1988.

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15. Freshly, John, Canyon Industries and Gloria Gowan, Arizona Department of Environmental Quality. Telephone Conversation, February 2, 1988.

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18. "Estimated Return Periods for Short Duration Precipitation in Arizona", by Paul C. Kangieser. October, 1969.

19. Freshley, John, Canyon Industries and Bill Williams, Bureau of Sanitation. Letter, May 29,1979.

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21. "Merged 55 and GWSI Well Registry", Arizona Department of Water Resources. July 12, 1988.

SECTION II

CONTACT MEMORANDA

PERSONAL/TELEPHONE CONTACT MEMORANDUM

DATE 2/2/88 FILE: Canyon Industrie

TIME 1:10 CALL MADE/TAKEN BY: Gloria Gowan

CONTACT NAME: John Freshley PHONE: 258-2402

REPRESENTING: Canyon Industries

ADDRESS:

SUBJECT: Holding Tank Deodorant 11660

CONVERSATION: Mr Freshley said they are still producing the Holding Tank Deodorant and it still contains formaldehyde. He said you have to special order it.